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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,383	07/03/2001	Mika Ryukawa	33452	6841

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EXAMINER

CONNOLLY, MARK A

ART UNIT PAPER NUMBER

2115

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,383

Applicant(s)

RYUKAWA ET AL.

Examiner

Mark Connolly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 29 March 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 13-18 have been presented for examination.

Drawings

2. Figures 29-35 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "A101, B102, ..., Z103." Rather Fig. 32 uses "101, 102, ..., 103." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art [AAPA].

6. Referring to claim 14, the AAPA teaches the virtual computer system for executing/controlling a plurality of operating systems including:

a. a storing means for storing power saving mode information of hardware devices in respective operating systems [page 4 line 3 – page 6 line 2 and page 6 lines 14-25]. In particular, the AAPA teaches that the hardware devices are controlled and shared between different operating systems. Because the devices switch back and forth between different power states depending on which operating system has control, it is obvious that there exists a storage means in the respective operating systems to store the power saving mode information so that as the operating systems receive and relinquish control of the devices, the operating systems could still return the devices back to a previous power saving mode initiated by those previous operating systems.

b. a request receiving means for receiving a power-saving mode switching request [page 4 line 3 – page 6 line 2].

c. a power-saving mode switching/controlling means for controlling process execution of the request based on the power-saving mode information, and setting a power-saving mode based on the power-saving mode information of a switched operating

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system when the operating system is switched [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].

7. Referring to claim 15, the AAPA teaches the power-saving mode switching/controlling means can set/change the power-saving mode based on the power-saving mode information during the execution of the operating system [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA as applied to claims 14 and 15 above, and further in view of Provino et al [Provino] US Pat No 6601081.

9. Referring to claim 16, although the AAPA teaches a power-saving mode switching/controlling means to set/change a power-saving mode, it is not explicitly taught that the switching/controlling means to set/change a power-saving mode is based on priorities. In summary, the AAPA does not teach scheduling based on a prioritized schedule. Rather, the AAPA suggests sharing execution time wherein the scheduling allows all operating systems to execute equally. Provino explicitly teaches that other than executing equally, execution can be scheduled based on priority [col. 3 line 65 – col. 4 line 12]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the AAPA to schedule the operating systems based on priority because it would allow the virtual computer system to execute tasks which are more important more frequently.

10. Claims 13, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Holtzhammer US Pat No 6092209.

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11. Referring to claim 13, the AAPA teaches the virtual computer system for executing/controlling a plurality of operating systems substantially including:

- a. A storing means for storing execution information containing execution states of hardware devices in respective operating systems [page 4 line 3 – page 6 line 2 and page 6 lines 14-25]. In particular, the AAPA teaches that the hardware devices are controlled and shared between different operating systems. Because the hardware device switches between different power states depending on which operating has control, it is interpreted that there exists a storing means for storing execution information containing execution states of the hardware device so that when the device returns to a previous state, it has a means to recall its previous state.
- b. a request receiving means for receiving at least one request of a power-supply-ON request and a power-supply OFF request to the hardware devices [page 4 line 3 – page 6 line 2].
- c. a power-supply switching/controlling means for controlling process execution of the request based on the execution information [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].

The AAPA does not explicitly teach not performing the process execution of the power-supply ON request or the power-supply OFF request when another operating system is using the hardware devices if at least one operating system issues at least one of the power-supply ON request and the power-supply OFF request to at least one hardware device. In summary, the AAPA does not teach not performing a power-supply ON or OFF request if the device is in use with another operating system. Holtzhammer explicitly teaches not performing a power

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transition in a device while the device is busy [col. 3 line 57 – col. 4 line 3]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the AAPA to include the teachings of Holtzhammer because Holtzhammer explicitly teaches that if the device is busy, it may not be safe to initiate a power transition in a device. Because the AAPA-Holtzhammer system comprises multiple operating systems controlling a hardware device, it is interpreted that if the hardware device is busy with one operating system another operating system request to change the power state of the device would be ignored in order to prevent an unsafe power transition.

10. Referring to claims 17 and 18, these are rejected on the same basis as set forth hereinabove. In particular, the AAPA-Holtzhammer system teaches a system where devices share execution time between a plurality of operating systems wherein the operating systems comprise power-saving mode information for the devices. If every operating systems power-saving mode information requires a device to be ON, then the operating systems continue to share the device between them. On the other hand, if one of the operating systems requests the device to be powered OFF, then there must be a determination as to whether or not the device is currently busy. If the device is busy then the operating system is denied access to the device because it is determined that it is not safe to initiate a power transition and therefore device cannot be powered off. Therefore it is interpreted that the request is compared with a devices current power mode to determine if it is safe to give the operating system access to the device. Because the device is part of the virtual computer system itself, it is interpreted that the comparison is between the power-saving mode of an operating system and the devices current power-saving mode is actually between the operating system and the virtual computer itself.

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Conclusion

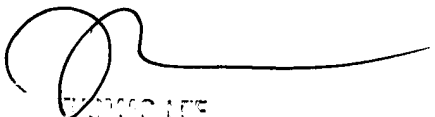
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
November 12, 2004


THOMAS C. LEE
SUPERVISOR, ART UNIT 2115
NOVEMBER 12, 2004